

AQA Biopsychology Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. What are neurons responsible for in the nervous system?**
 - A. They transmit information and regulate emotions**
 - B. They produce hormones to manage stress**
 - C. They receive information and transmit it to other cells**
 - D. They maintain the structural integrity of the brain**

- 2. What is the primary method by which fMRI scans monitor activity in the brain?**
 - A. Electrodes on the scalp**
 - B. Magnetic fields and radio signals**
 - C. Thermal imaging**
 - D. X-ray technology**

- 3. What can genetic predisposition lead to?**
 - A. Enhanced social skills**
 - B. Development of certain psychological disorders**
 - C. Increased physical strength**
 - D. Improved academic performance**

- 4. During the fight or flight response, what happens to the functioning of the digestive and immune systems?**
 - A. They become more active**
 - B. They are prioritized**
 - C. They experience reduced functioning**
 - D. They stay unchanged**

- 5. Which system is primarily engaged during stressful situations?**
 - A. Central nervous system**
 - B. Parasympathetic nervous system**
 - C. Sympathetic nervous system**
 - D. Endocrine system**

6. What is the term for the process in which nerve impulses are carried across the synapse?

- A. Dendritic transmission**
- B. Neuronal firing**
- C. Synaptic transmission**
- D. Impulse conduction**

7. Which gland is critical in hormone regulation?

- A. Pineal gland**
- B. Adrenal gland**
- C. Thyroid gland**
- D. Pituitary gland**

8. What is one of the key roles of hormones within the endocrine system?

- A. Facilitate the movement of muscles**
- B. Process information during learning**
- C. Regulate various bodily functions**
- D. Control body temperature**

9. What is the primary function of the central nervous system?

- A. To protect the body from injury**
- B. To process information and coordinate responses**
- C. To regulate hormonal activity**
- D. To assist in voluntary muscle movements**

10. What occurs during the process of synaptic transmission?

- A. Release of hormones into the bloodstream**
- B. Binding of neurotransmitters to muscle receptors**
- C. Release of neurotransmitters into the synaptic cleft**
- D. Absorption of signals in the cell body**

Answers

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1. C
2. B
3. B
4. C
5. C
6. C
7. D
8. C
9. B
10. C

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Explanations

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1. What are neurons responsible for in the nervous system?

- A. They transmit information and regulate emotions
- B. They produce hormones to manage stress
- C. They receive information and transmit it to other cells**
- D. They maintain the structural integrity of the brain

Neurons play a central role in the nervous system by receiving information from various stimuli, processing it, and transmitting signals to other cells, including other neurons, muscles, and glands. This process occurs through specialized structures within the neuron, such as dendrites, which receive incoming information, and axons, which carry the electrochemical signals away from the neuron. Neurons communicate with one another at synapses, where neurotransmitters are released to transmit the signal across the gap between cells. This ability to receive and transmit information is fundamental to all nervous system functions, including reflexes, sensory processing, and coordination of muscle action. By facilitating communication within the nervous system, neurons enable complex behaviors and responses to the environment, making option C the most accurate description of their role.

2. What is the primary method by which fMRI scans monitor activity in the brain?

- A. Electrodes on the scalp
- B. Magnetic fields and radio signals**
- C. Thermal imaging
- D. X-ray technology

fMRI, or functional magnetic resonance imaging, primarily utilizes magnetic fields and radio signals to monitor brain activity. This technique is based on the principle of blood oxygenation level-dependent (BOLD) contrast, which measures changes in blood flow associated with neural activity. When specific brain regions are more active, they require more oxygen, leading to increased blood flow to those areas. The fMRI detects this change in oxygenated and deoxygenated blood by using magnetic fields to create detailed images of brain activity in real-time. This method allows researchers to observe which parts of the brain are involved in different cognitive tasks, emotional responses, or sensory processing, making fMRI an invaluable tool in both research and clinical settings for understanding brain function. The other methods listed, such as electrodes on the scalp or X-ray technology, do not provide the same non-invasive insights into brain activity and structure as fMRI does. Thermal imaging does not measure brain activity directly; rather, it captures temperature variations on the surface of the body. Thus, the use of magnetic fields and radio signals distinctly identifies fMRI's approach to mapping brain function.

3. What can genetic predisposition lead to?

- A. Enhanced social skills
- B. Development of certain psychological disorders**
- C. Increased physical strength
- D. Improved academic performance

Genetic predisposition refers to the likelihood of developing certain traits or conditions based on one's genetic makeup. This concept is particularly relevant in the context of psychological disorders, as many such conditions, such as depression, anxiety, and schizophrenia, can have a heritable component. Studies have shown that individuals with family histories of these disorders may be more susceptible to developing them themselves, indicating that genes play a role in the risk factors associated with these psychological issues. While genetic predisposition could theoretically influence social skills, physical strength, or academic performance, it is most clearly associated with the potential development of psychological disorders. Environmental factors and life experiences also play a significant role alongside genetic influences, but genetic predispositions are a foundational element in understanding why certain individuals may be more vulnerable to mental health issues.

4. During the fight or flight response, what happens to the functioning of the digestive and immune systems?

- A. They become more active
- B. They are prioritized
- C. They experience reduced functioning**
- D. They stay unchanged

During the fight or flight response, the body undergoes a series of physiological changes aimed at preparing an individual to either confront or escape from a perceived threat. This response is governed by the sympathetic nervous system and is characterized by the release of stress hormones such as adrenaline and cortisol. The functioning of the digestive and immune systems experiences a reduction because these systems are not critical for immediate survival during a high-stress situation. The body reallocates resources towards systems that are essential for quick physical responses, such as increased heart rate, enhanced blood flow to muscles, and heightened alertness. This means that while the body is under stress, it prioritizes immediate energy and physical readiness over digestion and immune responses, which can be seen as non-essential for acute survival. Therefore, the correct answer highlights that during the fight or flight response, the digestive and immune systems do not operate at full capacity, as energy and focus are redirected towards more urgent, survival-related tasks.

5. Which system is primarily engaged during stressful situations?

- A. Central nervous system**
- B. Parasympathetic nervous system**
- C. Sympathetic nervous system**
- D. Endocrine system**

The sympathetic nervous system is the primary system engaged during stressful situations. This system is responsible for the body's "fight-or-flight" response, which prepares an individual to either confront or flee from a perceived threat. When the brain detects a stressor, the sympathetic nervous system activates a series of physiological changes. These changes include increased heart rate, dilation of the pupils, and elevated blood pressure, all of which are aimed at ensuring that the body is ready to respond to the stressor effectively. In contrast, the central nervous system, while crucial for processing information and coordinating responses, does not directly manage the immediate physiological changes associated with stress. The parasympathetic nervous system, on the other hand, works to promote a state of rest and relaxation, counteracting the sympathetic nervous system's actions. The endocrine system, while it does play a role in stress responses via hormones (like cortisol), is not specifically the system that is activated in the moment of stress; instead, it works in parallel to reinforce the effects of the sympathetic nervous system. Understanding the functions of these systems highlights why the sympathetic nervous system is central to responding quickly and efficiently during stressful situations.

6. What is the term for the process in which nerve impulses are carried across the synapse?

- A. Dendritic transmission**
- B. Neuronal firing**
- C. Synaptic transmission**
- D. Impulse conduction**

The term that describes the process of carrying nerve impulses across the synapse is synaptic transmission. This process involves the release of neurotransmitters from the presynaptic neuron, which then bind to receptors on the postsynaptic neuron, leading to the continuation of the nerve impulse. Synaptic transmission is crucial for communication between neurons, allowing for the propagation of signals throughout the nervous system. The other options do not accurately represent this process. Dendritic transmission suggests a focus on the dendrites, which receive signals but does not encapsulate the entire synaptic process. Neuronal firing refers to the electrical activity that occurs within a neuron itself, rather than the transmission across the synapse. Impulse conduction typically refers to the movement of electrical impulses along the axon of a neuron, not the specific mechanisms involved in synaptic communication.

7. Which gland is critical in hormone regulation?

- A. Pineal gland
- B. Adrenal gland
- C. Thyroid gland
- D. Pituitary gland**

The pituitary gland is often referred to as the "master gland" because it plays a crucial role in regulating the endocrine system and overseeing the function of other glands. It produces and releases several hormones that influence various physiological processes, including growth, metabolism, and reproduction. For instance, it secretes hormones like growth hormone, which is vital for growth and development; adrenocorticotropic hormone (ACTH), which stimulates the adrenal glands; and thyroid-stimulating hormone (TSH), which prompts the thyroid gland to release thyroid hormones. The pituitary's strategic position at the base of the brain allows it to respond directly to signals from the hypothalamus, making it essential for maintaining hormonal balance and responding to bodily changes. Its interaction with other glands underscores its regulatory significance in various bodily functions and hormone release, solidifying its critical role in hormone regulation.

8. What is one of the key roles of hormones within the endocrine system?

- A. Facilitate the movement of muscles
- B. Process information during learning
- C. Regulate various bodily functions**
- D. Control body temperature

The key role of hormones within the endocrine system is to regulate various bodily functions. Hormones are chemical messengers that are secreted into the bloodstream by glands in the endocrine system. They influence a wide range of bodily functions including metabolism, growth and development, tissue function, sexual function, reproduction, sleep, and mood, among others. This regulatory role is crucial for maintaining homeostasis—the body's state of stable internal conditions. For example, hormones like insulin play an essential part in regulating blood sugar levels, while thyroid hormones can affect metabolic rates. Their effects can be widespread and can take longer to manifest compared to nervous signals but are critical for long-term regulation of physiology. Other options describe functions not typically associated with the direct role of hormones. For instance, muscle movement is primarily facilitated by the nervous system. Learning and information processing are cognitive functions closely associated with the brain rather than hormonal action. Finally, while hormones can influence metabolism and energy balance, the direct regulation of body temperature involves a complex interplay of neural and hormonal mechanisms rather than being a primary role of the endocrine system.

9. What is the primary function of the central nervous system?

- A. To protect the body from injury
- B. To process information and coordinate responses**
- C. To regulate hormonal activity
- D. To assist in voluntary muscle movements

The primary function of the central nervous system (CNS) is to process information and coordinate responses. The CNS, which consists of the brain and spinal cord, serves as the main control center for the body. It receives sensory information from the surrounding environment, interprets this data, and generates appropriate responses. For instance, when a person touches something hot, the sensory neurons send signals to the CNS, where the information is processed, and a decision is made to withdraw the hand from the heat source. This rapid processing and response coordination are crucial for survival and function, making it clear why processing information and coordinating responses is a central role of the CNS. While protecting the body from injury is an important aspect of the nervous system as a whole, it is more of a byproduct of the responses coordinated by the CNS rather than its primary function. Regulating hormonal activity is primarily the role of the endocrine system, although the CNS does interact with it. Assisting in voluntary muscle movements involves motor functions carried out by the CNS, but this falls under the broader category of processing information and coordinating responses. Therefore, B accurately encapsulates the main role of the central nervous system.

10. What occurs during the process of synaptic transmission?

- A. Release of hormones into the bloodstream
- B. Binding of neurotransmitters to muscle receptors
- C. Release of neurotransmitters into the synaptic cleft**
- D. Absorption of signals in the cell body

During synaptic transmission, the correct process involves the release of neurotransmitters into the synaptic cleft. This occurs when an action potential reaches the end of an axon, prompting voltage-gated calcium channels to open. The influx of calcium ions signals synaptic vesicles to fuse with the presynaptic membrane, leading to the release of neurotransmitters into the synaptic cleft. These neurotransmitters then travel across the synaptic gap and bind to receptors on the postsynaptic membrane, facilitating communication between neurons. The options involving the release of hormones into the bloodstream, binding of neurotransmitters to muscle receptors, and absorption of signals in the cell body do not accurately describe the primary event of synaptic transmission. The focus of synaptic transmission is specifically on the interaction between neurons at the synapse, making the release of neurotransmitters the central event in this process.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://aqabiopsychology.examzify.com>

We wish you the very best on your exam journey. You've got this!

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